

What Is Claimed Is:

1. A micromechanical component, in particular an acceleration sensor, comprising a substrate (5), at least one spring device (3, 4, 10), and at least one seismic mass, the spring device (3, 4, 10) being connected at a first end to the substrate (5) and at a second end (6, 9) to the mass, and the rigidity (spring constant) of the spring device (3, 4, 10) being designed so that a motion of the mass relative to the substrate (5) is causable as a result of an acceleration (g) relative to the substrate (5), in particular parallel to a surface of the substrate (5), wherein the spring device (3, 4, 10) is designed for an intrinsically nonlinear behavior corresponding to a progressive spring characteristic curve, in which a greater acceleration (g) is associated at least locally with a greater rigidity (spring constant), so that the component having this nonlinear spring device (3, 4, 10) exhibits, at least locally, a lesser sensitivity at greater acceleration (g).

2. The micromechanical component as recited in Claim 1, wherein

- the spring device is constituted by two flexural spring elements (3, 4) which are arranged in such a way that the movability of the first flexural spring element (3) with respect to the substrate (5) is restricted but not delimited by an elastic spring stop (8),
- the spring stop (8) being constituted by the second flexural spring element (4) itself,
- so that with increasing acceleration (g), the sensitivity of the component initially exhibits a constant value corresponding to the spring constant of the first flexural spring element (3), whereas once the spring stop (8) is reached the sensitivity exhibits — because of the entrainment of the second flexural spring element (4) by the first flexural spring element (3) upon further deflection — a higher value that is once again constant but corresponds to a higher spring constant.

3. The micromechanical component as recited in Claim 2, wherein

- the flexural spring elements (3, 4) each have an elongated shape;
- the flexural spring elements (3, 4) are disposed parallel to one another transversely to the direction of the acceleration (g), the second end (6), connected to the mass, of the first flexural spring element (3) projecting beyond the second end (7), connectable indirectly to

the mass by way of the first flexural spring element (3) that is coming to a stop, of the second flexural spring element (4);

- and as a result of a bending, caused by the acceleration (g) of the mass, of the first flexural spring element (3) as far as the second flexural spring element (4), the surface of the first flexural spring element (3) facing toward the second flexural spring element (4) comes to a stop (8) against the second end (7) of the second flexural spring element (4).

4. The micromechanical component as recited in Claim 1, wherein the spring device is constituted by an elongated flexural spring element (10), disposed transversely to the direction of the acceleration (g) and decreasing in thickness from the first to the second end (9), whose spring constant increases with bending.

5. The micromechanical component as recited in Claim 4, wherein the thickness decreases pyramidally.

6. The micromechanical component as recited in Claim 5, wherein this intrinsic nonlinearity brings about an approximately logarithmic profile of the component characteristic curve (1, 2).